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UNITED STATES DISTRICT COURT  
  
CENTRAL DISTRICT OF CALIFORNIA - WESTERN DIVISION  
  
HONORABLE STANLEY BLUMENFELD, JR., U.S. DISTRICT JUDGE  
  
SANTA CLARITA VALLEY WATER AGENCY, )  
 )  
Plaintiff, )  
 )  
v. ) Case No.  
 ) CV 18-6825 SB (RAOx)  
WHITTAKER CORPORATION, et al., )  
 ) Volume 10  
Defendants. ) (Pages 1091 - 1142)  
 )  
\_\_\_\_\_ )

REPORTER'S TRANSCRIPT OF TRIAL PROCEEDINGS  
TRIAL DAY 5: P.M. SESSION  
TUESDAY, NOVEMBER 23, 2021  
1:02 P.M.  
LOS ANGELES, CALIFORNIA

\_\_\_\_\_  
  
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FOR  
EVIDENCE  
PG.

NUMBER DESCRIPTION

(NONE OFFERED.)

1 TUESDAY, NOVEMBER 23, 2021; 1:02 P.M.

2 LOS ANGELES, CALIFORNIA

3 -oOo-

4 (In the presence of the jury:)

12:59PM

5 THE COURT: We remain on the record in the trial  
6 matter with all who were present previously, including the  
7 witness.

8 And, Dr. Trudell, you understand you remain under  
9 oath?

01:02PM

10 THE WITNESS: Yes.

11 THE COURT: You may continue with your  
12 cross-examination, Mr. Blum.

13 MR. BLUM: Thank you, Your Honor.

14 **MARK TRUDELL, Ph.D.,**

01:02PM

15 **PLAINTIFF'S WITNESS, PREVIOUSLY SWORN, TESTIFIED AS FOLLOWS:**

16 **CROSS-EXAMINATION (RESUMED)**

17 BY MR. BLUM:

18 Q. Dr. Trudell, do you recall during the direct  
19 examination of Mr. Gee that at one point you told him that  
20 there was an exhibit that went with the question?

01:02PM

21 A. Yes.

22 Q. How did you know that?

23 A. Because I practiced.

24 Q. Who did you practice with?

01:02PM

25 A. I practiced -- I mainly read on my own.

1 Q. Well, how did you know that a question that Mr. Gee  
2 was asking referred to an exhibit that he knew what -- and that  
3 he knew what exhibit that was?

4 A. I imagine he practiced too.

01:03PM 5 Q. He practiced -- did you practice together?

6 A. Not really, no.

7 Q. Well, how did he know what exhibit you were  
8 referring to, then?

9 MR. GEE: Objection. Calls for speculation.

01:03PM 10 THE COURT: Sustained.

11 Q. (BY MR. BLUM:) Did you -- did you have any  
12 understanding that he would know what exhibit you were  
13 referring to?

14 A. Well, I -- I chose the figures, the graphics, but I  
01:03PM 15 didn't assign the exhibit numbers. So I -- I can't tell you  
16 what the exhibit numbers are, but I -- I understand what the  
17 figure is because I came up with it.

18 THE COURT: Please speak into the microphone,  
19 please.

01:03PM 20 THE WITNESS: Sorry.

21 THE COURT: Thank you.

22 Q. (BY MR. BLUM:) In other words, your direct  
23 examination was rehearsed?

24 A. I'm not sure what you mean by --

01:03PM 25 MR. GEE: Objection. Assumes facts not in evidence.

1 THE WITNESS: -- rehearsed.

2 Q. (BY MR. BLUM:) That's all right. I'll withdraw the  
3 question.

4 A. All right.

01:03PM

5 Q. If we can go back, please, to Figure 3 from the  
6 report, please -- the report is -- is Exhibit 1310.

7 A. Yes. Okay. I have it.

8 Q. Now, I want to ask this question directly. If you  
9 see the dark blue line, okay -- do you see it, sir?

01:04PM

10 A. Yes.

11 Q. Does that represent a flow direction?

12 A. It's called a flow direction, so I believe it  
13 represents a flow direction.

14 Q. Is that the same thing as a pathway?

01:04PM

15 A. No. It's a flow direction, yeah.

16 Q. What's the difference?

17 A. The flow direction identifies the velocity -- let me  
18 rephrase this. The flow direction indicates the direction that  
19 groundwater is flowing, but it doesn't tell you where it's  
01:04PM 20 flowing to or where it's flowing from. So the pathway starts  
21 at a location and then follows the groundwater flow direction  
22 from a source to a receptor or from Location A to Location B.

23 Q. Now, when you -- when we talk about a pathway, when  
24 water -- when water flows through the subsurface, it spreads  
01:05PM 25 out laterally; correct?

1 A. I'm not sure I understand that question. When water  
2 spreads out?

3 Q. Are you finished?

4 A. Yes. I don't understand the question, I'm sorry.

01:05PM

5 Q. It moves not only from a high elevation to a low  
6 elevation, but it also spreads in a lateral direction; correct?

7 THE COURT: "It" being water?

8 MR. BLUM: Water, yes, sir.

01:05PM

9 THE WITNESS: I -- I've never heard that kind of  
10 explanation before. It's not something I'm familiar with in  
11 terms of hydrogeology, so I don't know where you came up with  
12 that.

13 Q. (BY MR. BLUM:) Would you agree with me that the  
14 flow direction described in Figure -- I think it's 4 -- or I'm  
15 sorry, it's Figure 3 of your report, the flow direction goes  
16 through the western boundary of OU-4. And I'm going to circle  
17 it for you.

01:06PM

18 THE COURT: And while you're doing that, this is  
19 Exhibit 1310, Figure 3.

01:06PM

20 Q. (BY MR. BLUM:) See -- do you see the circle with  
21 the red line?

22 A. Yes.

23 Q. That line represents the western boundary of OU-4.  
24 Would you agree with me?

01:06PM

25 A. The line represents the western boundary of OU-4,



1 I'd agree with that.

2 Q. Right. And the flow direction that's marked in the  
3 dark blue line would flow right through that western boundary,  
4 would it not?

01:07PM

5 A. Well, that -- as I mentioned before when we looked  
6 at this figure, that flow direction could be moved anywhere up  
7 and down these lines. And so you could have it going, you  
8 know, through the north boundary, it could go through the west  
9 boundary, it could bypass altogether and go south through the  
10 west boundary.

01:07PM

11 So, you know, there's two points to make here.  
12 Number one is that that's not a unique groundwater flow  
13 direction. It's not the only flow direction on the whole map.  
14 But the other point is that that flow direction is coming from  
15 other areas that aren't really contaminated.

01:07PM

16 Q. My question is: As drawn in Figure 3 of your  
17 report, the flow direction that's represented by the dark blue  
18 line flows directly through the western edge of OU-4?

19 A. The arrow does.

01:07PM

20 Q. Thank you.

21 And that flow direction is different than the one  
22 you drew with -- to the jury in your direct; correct?

23 A. No. It's not really. It's the -- almost exactly  
24 the same orientation, if you look at where it is relative to,  
25 say, the 12:00 o'clock position, it's probably at -- what? --

01:08PM

1 about 10:00 o'clock, which is northwest. And it's almost  
2 exactly the same orientation as the flow lines I -- I drew.  
3 It's just that there -- it starts at a different place.

01:08PM 4 Like I said, you could draw that same flow direction  
5 anywhere on this figure between those -- those two lines and  
6 you could apply it to that location or that portion of the map  
7 area.

8 Q. Now, I want to move on to a different -- by the way,  
9 the -- the pathway that you showed the jury in the direct, is  
01:08PM 10 it anywhere in any of the figures in your report?

11 A. Um, it's inferred and, you know, it would be  
12 inferred from this. The actual flow direction is in the -- the  
13 CH2M Hill report. I think it's Figure 5-1. So that's one of  
14 my figures that I've used.

01:09PM 15 Q. That's not my question, though.  
16 My question is: Can you show me a figure in your  
17 report where you visually illustrate the same flow direction  
18 that you showed the jury or your rebuttal report, for that  
19 matter?

01:09PM 20 A. Let me just check, please.

21 Yes. So in my rebuttal report, it's 194.1.  
22 Exhibit 194.1. Where is that? Sorry. That's not my rebuttal  
23 report. One second, please.

24 I'm not sure I have a copy of my rebuttal report  
01:10PM 25 here.

1 Q. All right. Okay. Then let's move on, then.

2 Now, you said that the -- did you actually -- you  
3 said that the soil data that was gathered by Whittaker didn't  
4 have sufficient -- hadn't done sufficient testing to determine  
01:10PM 5 travel time through the soil; correct?

6 A. Yes. I -- I did agree with that.

7 Q. Does that mean you actually reviewed the actual  
8 tables that made up the soil data reports?

9 A. I looked primarily at the remedial investigation  
01:10PM 10 report for OU-7 -- or for OUs 2 to 6, rather.

11 Q. Okay. That wasn't my question, though.  
12 My question is: Did you actually look at the tables  
13 that -- that would include the soil data?

14 A. I looked at some of them, yes.

01:11PM 15 Q. Okay. Didn't you testify differently to that in  
16 your deposition?

17 A. Um, I don't recall.

18 Q. We can go to page 26, line 8 through 19.

19 THE COURT: You may proceed.

01:11PM 20 MR. BLUM: *"QUESTION: Did you review any*  
21 *data for soil sampling on site on the Whittaker site?*

22 *"ANSWER: Not specifically. No.*

23 *"QUESTION: What does 'not specifically' mean?*

24 *"ANSWER: Well, I've looked at maps of soil*  
01:12PM 25 *contamination some consider. I'm not sure if you*

1       *consider that data. But I don't recall looking at,*  
2       *say, tables of soil concentrations at bore holes.*  
3       *I did not do that.*

01:12PM 4               "QUESTION: All right. How about soil gas  
5       data?

6               "ANSWER: Again, I recall reading sections  
7       about that, but I don't recall reviewing specific  
8       data."

01:12PM 9       Q.       (BY MR. BLUM:) Is that the truth when you testified  
10      to that in your deposition?

11      A.       It was true at the time, yes.

12      Q.       So is this after your deposition that you looked at  
13      this data?

14      A.       Um, it may have been. It may have been.

01:12PM 15      Q.       So you looked at new information that -- that you're  
16      relying upon in your testimony today after your report was  
17      filed and after your deposition was taken?

18      A.       I looked at some reports, and I looked at some data.

01:12PM 19      Q.       And you looked at the soil data after your  
20      deposition and after your report was filed; correct?

21      A.       Again, I didn't look at the -- the soil data in any  
22      detail. I scanned through to see what constituents that the --  
23      they were measuring, but most of that is written in the text.

01:13PM 24      So you don't need to -- you don't need to -- to look at the  
25      tables to see what they were testing for.

1 Q. The question, though, sir, is: After your  
2 deposition and after your report was written, did you look at  
3 additional information that you relied upon in answering the  
4 questions about whether or not there was enough data to do the  
01:13PM 5 analysis of movement through soil?

6 MR. GEE: Objection. Asked and answered.

7 THE COURT: Sustained.

8 Q. (BY MR. BLUM:) All right. Now, the -- I want to  
9 move on specifically to these equations. Right.

01:13PM 10 Is it correct that the equations that you did and  
11 the answers that you obtained, you were only looking to see  
12 what could have happened, not necessarily what did happen?

13 A. I'm not sure that I understand which equations  
14 you're referring to.

01:14PM 15 Q. Figures 8 -- Figures 9 and 10.

16 A. So that's the -- the solute transport equation.

17 Q. Do you remember the question?

18 A. These are -- these are theoretical equations.

19 They're meant to be illustrative. They're not meant to be  
01:14PM 20 definitive in terms of representing exactly what is happening  
21 in terms of that specific -- any specific location or site  
22 except that I used site specific data.

23 Q. All right. But my question was: What you were  
24 seeking to determine was what could have been the travel times,  
01:14PM 25 not what were the travel times?

1           A.     Well, the travel times were estimated, um, based on  
2     the data that I had available. And I think the travel times  
3     are -- are reasonable estimates of that. They are estimates.  
4     And so I think, you know, you may be confusing, you know, an  
01:15PM 5     estimate of a -- of a travel time versus -- you know, nobody  
6     can go and actually measure, physically measure travel time.

7                 So, you know, that was -- I -- I didn't -- I used  
8     what I believe was a reasonable estimate of the groundwater  
9     velocity and the travel time based on my professional  
01:15PM 10    experience.

11           Q.     All right. I want to talk -- I want to move back to  
12    pathways.

13                 Now, isn't it correct, sir, that the perchlorate and  
14    the VOCs migrated on exactly the same groundwater pathway?

01:15PM 15           A.     Well, they -- that is correct. It's something that  
16    I said in my report, but it's subject to three -- three  
17    underlying conditions or assumptions. Number one, the two  
18    contaminants have to come from the same source. Number two,  
19    they have to be released at the same time. And number --  
01:16PM 20    number three is that they have to reach the water table at the  
21    same time and in the same place.

22                 So in that case, yes, they traveled for at least  
23    some distance exactly the same flow path.

24           Q.     Define for me the word "exactly."

01:16PM 25           A.     It means precisely.

1 Q. Okay. In your report, when you use the word  
2 "exactly" the same pathway, did you qualify it the way you just  
3 did here?

01:16PM 4 A. I don't believe I did, but I don't really need to  
5 because, um, it's -- it's a pretty well established  
6 hydrogeological principle that water and contaminants travel  
7 together and the two contaminants will travel along the path of  
8 the groundwater flowing. It's -- the single biggest driver of  
9 contaminant migration is groundwater flow and groundwater  
01:17PM 10 velocity.

11 Q. My question, though, was: In your report, did you  
12 qualify the term that they moved exactly in the same pathway --

13 THE COURT: And, Counsel, you could ask another  
14 question. The answer is no. He said no.

01:17PM 15 Q. (BY MR. BLUM:) All right. Sir, so it would be  
16 correct if they moved on exactly the same pathway and if we  
17 find both VOCs in S-1 and S-2 and perchlorate and the source of  
18 those VOCs is Whittaker, that we should see both perchlorate  
19 and VOCs in the -- in the wells in between since they're on the  
01:17PM 20 same pathway and they had -- they found the same location?

21 A. Which wells are you referring to?

22 Q. Well, for instance, if the groundwater flow  
23 direction flowed through OU-4, the western edge, and shouldn't  
24 we then find both VOCs and perchlorate at the western edge of  
01:18PM 25 OU-4?

1           A.     I wouldn't expect to because the primary direction  
2     of migration from the source areas is to the north and west,  
3     which takes them over the north boundary. The western  
4     boundary, there are -- first of all, there's no sources of VOCs  
01:18PM 5     in the western part of OU-4. Um, and the source areas are all  
6     in the east.

7                     And so the -- I don't -- I consider the line of  
8     wells in the western OU-4s delineation wells. They tell you  
9     where the contamination is not. They don't tell you where the  
01:18PM 10    contamination is.

11           Q.     Those three --

12                     MR. BLUM: Can we put back up the last -- yeah,  
13     Figure 3 from the -- right.

14           Q.     (BY MR. BLUM:) So if we look at those --

01:18PM 15                     MR. BLUM: The figure, let's say -- that's fine.  
16     And again, I want to deal -- if we can blow up this area, Rick.

17           Q.     (BY MR. BLUM:) If we, again, look at this line,  
18     which is the western edge, there's three wells on that edge;  
19     correct?

01:19PM 20           A.     Yes.

21           Q.     And isn't it correct that consistently in those  
22     wells perchlorate was found?

23           A.     I believe that's correct, yes.

24           Q.     And rarely were VOCs found; correct?

01:19PM 25           A.     Well, the -- the perchlorate --



1 THE COURT: Just answer the question yes or no,  
2 please, if you can.

3 THE WITNESS: Could you repeat the question, please?

4 Q. (BY MR. BLUM:) Isn't it true, sir -- you get the --  
01:19PM 5 that -- there was isolated hits of VOCs but consistent hits of  
6 perchlorate in those three wells?

7 A. Yes.

8 Q. Okay. And so clearly, the groundwater flow was  
9 taking contaminated water that contained perchlorate through  
01:20PM 10 those wells; correct?

11 A. It's correct because it's from different sources.

12 Q. And that perchlorate, did it find its way to  
13 Saugus -- to one of the Saugus 2 or Saugus 1 wells?

14 A. It may have.

01:20PM 15 Q. Okay. And that VOCs which traveled on exactly the  
16 same pathway that the perchlorate that was found in those wells  
17 traveled was only found in isolated incidences in those three  
18 border wells; correct?

19 A. No. It's not correct because, as I said, they have  
01:20PM 20 to come from the -- the same source at the same time and reach  
21 the water table together for them to travel along the same  
22 path.

23 You have, in this case, numerous sources of  
24 perchlorate on the Whittaker site that are associated with  
01:20PM 25 VOCs. VOCs are almost always associated with perchlorate. But

1 that's why the -- the perchlorate plume is so wide because it's  
2 got perchlorate sources all across the Whittaker site and not  
3 just where there are VOCs.

01:21PM 4 Q. Is there any way to know when a molecule of  
5 perchlorate versus a molecule of VOCs hit the groundwater and  
6 whether it was at the same time?

7 A. There's many ways that you can do that, and the best  
8 way to do that is with monitoring wells and/or soil borings.

01:21PM 9 Q. Well, since we're dealing with a facility that, for  
10 instance, one expert said was -- was manufacturing fireworks in  
11 the '30s that used perchlorate, do -- do we -- can we  
12 distinguish between those molecules of perchlorate versus  
13 molecules that occurred when Bermite was operating the site in  
14 the '40s, '50s, and '60s versus a molecule that occurred when  
01:22PM 15 Whittaker was operating the site in the '70s?

16 A. There are some techniques that can be applied that  
17 can help identify the source of the perchlorate in terms of  
18 whether it's a manufactured source, a natural source, or  
19 agricultural source.

01:22PM 20 Q. None of that was done, was it?

21 A. I don't know if Whittaker did that or not.

22 Q. You have seen no data that says that was done;  
23 correct?

01:22PM 24 A. I have not seen any data with respect to -- I'm  
25 talking about isotopes, isotopic analysis of perchlorate.

1 Q. And, for instance, you can do -- that's called  
2 fingerprinting; correct? Colloquial words are fingerprinting;  
3 right?

01:22PM 4 A. Well, not really. It's the source identification  
5 more than fingerprinting. Lots of sources can have the same --  
6 the same isotopic signature, but it doesn't define a unique  
7 source.

8 Q. And you can do that same analysis for VOCs; right?  
9 Isotopic fingerprinting.

01:22PM 10 A. That's not commonly done. So I -- yeah. Not  
11 isotopic fingerprinting, but people mostly use ratios of  
12 concentrations and things like that.

13 Q. Well, for instance, can we distinguish between a  
14 molecule of VOCs that might have been used in pre-World War II  
01:23PM 15 or in World War I to clean out things for -- that were used in  
16 World War II versus the Korean war versus the Vietnam War?

17 A. I would say generally no.

18 Q. So when we're dealing with VOCs in this case and  
19 we're dealing with perchlorate, there's no way to know whose  
01:23PM 20 perchlorate it was; correct?

21 A. You mean, who the owner of it or the generator?

22 Q. Well, when we're looking at something in the  
23 groundwater --

24 A. Yes.

01:23PM 25 Q. -- is there a way to determine, yeah, that molecule

1 was put there by something that Halifax did or Bermite did or  
2 Whittaker did? There's no way to do that; correct?

3 A. When you -- when you say -- when you said whose  
4 perchlorate it is, are you talking about the -- the -- the  
01:24PM 5 "who" is one of those companies that they -- they were the  
6 source of releasing the perchlorate?

7 Q. Yeah.

8 A. Um, then I would say in general, unless you've done  
9 something like an isotopic -- you can't tell who owned it. You  
01:24PM 10 can tell what the nature of the source was, as I said, was it  
11 electrolytic? Was it agricultural? Was it naturally  
12 occurring? But you can't tell whose -- whose perchlorate it  
13 was.

14 Q. Or VOCs; correct?

01:24PM 15 A. Or VOCs, yes.

16 Q. None of that analysis that you just talked about has  
17 been done that you -- you don't know if any of that's been done  
18 in this case?

19 A. I don't believe it has been. I haven't -- I've  
01:24PM 20 never seen --

21 Q. Right.

22 A. -- anything on that.

23 Q. Sir, what does the term "reasonable degree of  
24 scientific certainty" mean to you?

01:24PM 25 A. To me, reasonable degree of scientific certainty

1 implies a level of certainty, if you will, in an analysis that  
2 typically has a fairly high probability of being right. So I  
3 would say for me, a reasonable degree of scientific certainty  
4 is something where you feel about 70 to 90 or 95 percent  
01:25PM 5 confident in the result.

6 Q. Okay. And in your -- the opinions that were in your  
7 two reports were to a reasonable degree of scientific  
8 certainty, were they not?

9 A. No, they weren't. They were -- more likely than not  
01:25PM 10 was the threshold that was used for my report.

11 Q. Well, if I -- if I tell you that you said in your  
12 rebuttal report on page 1, "The opinion I express herein  
13 supplement and do not change the opinions I set forth in my  
14 August 3, 2020, expert report. My opinions are to a reasonable  
01:25PM 15 degree of scientific certainty," would you change your last  
16 answer?

17 A. Um, I would say that was probably misstated in terms  
18 of that degree of scientific certainty because the scientific  
19 certainty in that case was actually more likely than not.

01:26PM 20 Q. Okay. Does that mean -- when you did your report --  
21 you recall we went over the report in your deposition and I  
22 asked you was there anything you wanted to change in it?

23 A. Um, I -- I think I recall that, yeah.

24 Q. And you didn't -- you looked at the reports, and you  
01:26PM 25 said there's nothing you wanted to change?

1 A. I believe so.

2 Q. Now, sir, are you saying now -- let's see -- almost  
3 a year after your deposition, that you're -- what you said in  
4 your report was wrong?

01:26PM

5 A. Well, I was -- in all likelihood, when I used that  
6 expression, um, I was looking at the degree of scientific  
7 certainty in maybe a broader sense to include the more likely  
8 than not end member of that.

01:27PM

9 Q. So when you use the terms "reasonable degree of  
10 scientific certainty," it -- it's inclusive of more likely than  
11 not; correct?

12 A. When I used it in that case, it was, yes.

13 Q. Well, when you generally use it, did you -- did you  
14 use it in this case differently than you normally use the term?

01:27PM

15 A. Well, the -- the, uh -- when you say it's more  
16 likely than not, let's say that represents a 51 percent  
17 threshold of certainty. Now, if -- that's kind of the lower  
18 limit of -- of certainty for more likely than not. But it  
19 could be -- if I had a 70 or 90 percent certainty, it would  
01:27PM 20 still be more likely than not.

21 Q. Let me see if I can get specific.

22 Would you agree with me that you could not testify  
23 to a reasonable degree of scientific certainty that Whittaker  
24 is the source of the VOCs in Well V-205?

01:28PM

25 A. I would say that in case -- in the case of Well 205,

1 it's more likely than not that Whittaker is the source.

2 Q. Okay. Now, did you ever state in your report that,  
3 based on a more likely than not standard, that Whittaker was  
4 the source of V-205?

01:28PM 5 A. I don't know if I said that in the report or not. I  
6 don't recall.

7 Q. Okay. If I told you that I've read the report  
8 dozens of times and I never --

9 THE COURT: Hold on. No testifying from counsel.

01:28PM 10 And the jury is to disregard and not take what he is  
11 suggesting as being truthful.

12 Q. (BY MR. BLUM:) Sir, would you agree with me that  
13 you could not testify to a reasonable degree of scientific  
14 certainty that Whittaker is the source of the VOCs in V-201?

01:29PM 15 A. As I said, I would testify that it's more likely  
16 than not the source of VOCs in Well 201.

17 Q. Now, do you recall those questions in your  
18 deposition?

19 A. Yes.

01:29PM 20 Q. When you were -- when you were saying that you could  
21 not testify to a reasonable degree of scientific certainty that  
22 Whittaker was not the source of V01 -- of the TCE in 201 or  
23 205, did the definition of reasonable degree of scientific  
24 certainty include more likely than not?

01:29PM 25 A. Well, that was -- that term was never defined in the

1 deposition. Um, and I used my own interpretation of that as --  
2 as representing a higher standard than more likely than not.

3 Q. And that was different from what you thought the  
4 term meant when you used it in your report; right?

01:29PM 5 A. It could possibly be different, yeah.

6 Q. How many definitions are there of reasonable degree  
7 of scientific certainty?

8 A. Oh, I have no idea.

9 Q. How many definitions do you have?

01:30PM 10 A. Well, like I say, it includes, um -- in my opinion  
11 or in my thinking, the threshold is a relatively -- is a higher  
12 threshold for scientific certainty than it is for more likely  
13 than not.

14 Q. Now, you -- let's move to Saugus 2 wells.

01:30PM 15 Now, one of the things -- one of the contaminants in  
16 the Saugus 2 wells is PCE; correct?

17 A. Uh, I believe there are some PCE in Saugus 2.

18 Q. All right. And --

19 MR. BLUM: Actually, can we put up 158?

01:30PM 20 Okay. What -- can you blow up where Saugus 1 and  
21 Saugus 2 are, please.

22 Q. (BY MR. BLUM:) Now, between these two wells, which  
23 one is closest to the Whittaker site?

24 A. Uh, Saugus 2.

01:31PM 25 Q. Now, what's -- what has more -- in terms of the



1 percentage of -- of water that contains PCE, is that greater in  
2 Saugus 1 or Saugus 2?

3 A. I don't recall.

4 Q. Well -- hold on a second, please.

01:31PM

5 Isn't it true that there's five times greater  
6 frequency of PCE detection for Saugus 1 than Saugus 2?

7 A. Um, do you have a reference for that?

8 Q. Yeah. If we can go to your deposition, lines --  
9 page 219, lines 15 through 19.

01:32PM

10 THE COURT: Mr. Blum, are you using this to refresh  
11 his recollection?

12 MR. BLUM: Well, let me see if I can -- let me  
13 withdraw the question, Your Honor, and let me ask a different  
14 one.

01:32PM

15 Q. (BY MR. BLUM:) Sir, isn't it correct that you  
16 cannot determine whether or not there is a separate source of  
17 PCE that is detected in Saugus 2 because you cannot explain why  
18 there is five times more PCE found in Saugus 1 than there is in  
19 Saugus 2?

01:33PM

20 A. Could you restate that question?

21 Q. Isn't it correct, sir, that the reason why you  
22 believe there may be a unique source of PCE in Saugus 2  
23 independent of Whittaker is because there is five times more  
24 PCE found in Saugus 1 than there is in Saugus 2?

01:33PM

25 A. Well, that assumes that the groundwater flow path,

1 um, is the same for both wells and their sources are the same,  
2 um, or different. And all I'm -- what I'm -- what I would say  
3 in response to that is groundwater can flow in different flow  
4 paths to each of the two wells. And depending on where that --  
01:33PM 5 that groundwater flow is sourced, it may contain in it  
6 different chemicals at different concentrations.

7 So as we were saying about the groundwater flow  
8 arrow, it doesn't represent a uniform direction for the entire  
9 site. So groundwater flow can vary in space, it can vary in  
01:34PM 10 time, and it can vary depending on where the source is and what  
11 the nature of the source is.

12 Q. Does that mean your answer was no?

13 A. "No," in terms of what?

14 MR. BLUM: Your Honor, I'd like to refer to  
01:34PM 15 page 219, lines 15 through 19.

16 THE COURT: I'll allow it.

17 MR. BLUM: You can --

18 (Videotaped deposition was played:)

19 Q. *"One of the reasons why there is more than*  
01:34PM 20 *five times greater frequency of PCE detection for*  
21 *Saugus 1 than Saugus 2 be that there is a source of*  
22 *PCE that is unique to Saugus 1?*

23 A. *"Um, I would say that's a possibility."*

24 Q. (BY MR. BLUM:) Would you agree today that there's a  
01:35PM 25 possibility that there is a source of PCE unique to Saugus 1?

1           A.     Again, I would say that it's more likely than not,  
2     um, coming from the Whittaker site because the Saugus 2 also  
3     has perchlorate and TCE. And the PCE -- when I say "more  
4     likely than not," that's a 51 percent likelihood that the  
01:35PM 5     source is Whittaker but it also opens the door that there's  
6     49 percent chance that that's not the right explanation.

7           Q.     Okay. Would you agree that there is a possibility,  
8     at least, that there is a source of PCE that is contaminating  
9     Saugus 1 independent of Whittaker?

01:35PM 10           A.     Possibility?

11           Q.     Yeah.

12           A.     Perhaps. Likely -- likelihood? I would say not  
13     likely.

14           Q.     So when you say -- so there is a possibility;  
01:36PM 15     correct?

16           A.     Remote possibility probably, yes.

17           Q.     You didn't say remote possibility --

18           THE COURT: All right. We're arguing now.

19           MR. BLUM: All right, Your Honor. I'll move on.

01:36PM 20           Q.     (BY MR. BLUM:) All right. Now, when you were asked  
21     whether or not there was -- whether you would testify to a  
22     reasonable degree of scientific certainty whether the VOCs  
23     found in Saugus 2 were from the site, you said you could not;  
24     isn't that correct?

01:36PM 25           A.     Um, I would say in response to that, that, again, my

1 standard was more likely than not. So I would not apply that  
2 threshold of higher level of certainty to that particular  
3 situation.

01:36PM 4 Q. But my question is: Can you testify to a reasonable  
5 degree of scientific certainty that the VOCs found in Saugus 2  
6 originated at the Bermite site?

7 A. I can -- I can -- I can testify to that -- it's more  
8 likely than not the Bermite site is the source of those  
9 chemicals in Saugus 2.

01:37PM 10 Q. Page 228, line 22, through 229, line 15.

11 MR. GEE: Objection. Improper impeachment.

12 THE COURT: Overruled. You may play it.

13 (Videotaped deposition was played:)

01:37PM 14 Q. *"Can you testify right now to a reasonable  
15 degree of scientific certainty that the VOCs found  
16 in Saugus 2 originated at the Bermite site?"*

17 A. *"Again, I haven't looked at that in detail.  
18 But certainly there's potential for that to happen.  
19 whether or not, you know, it's beyond a scientific  
01:38PM 20 degree of reasonable certainty, I couldn't say that  
21 at this time."*

22 MR. BLUM: Keep going.

23 Q. (BY MR. BLUM:) Okay. Now, if it's not the Bermite  
24 site, what's the source? If you can't testify to a reasonable  
01:38PM 25 degree of certainty that it's the Bermite site, what's the

1 source?

2 A. That's not for me to determine. That's for someone  
3 else to determine. It's probably up to you to determine that  
4 or for Whittaker to determine that.

01:38PM

5 I -- my conclusion was that it's more likely than  
6 not the Bermite site, that's the source of those chemicals in  
7 those wells.

8 Q. Isn't the reason why the two can't be separated  
9 out -- isn't it correct that the reason you can't testify to a

01:38PM

10 reasonable degree of scientific certainty that the site is the  
11 source of the VOCs in Saugus 2 is because more work needs to be  
12 done separating out the PCE sources from the TCE sources on the  
13 Bermite site?

14 A. Was that a question? I'm sorry.

01:39PM

15 Q. Yeah. Yes, it is.

16 A. Could you repeat the question, please?

17 Q. Isn't it correct the reason you can't reach the  
18 conclusion is because more work needs to be done to sort out in  
19 terms of separating out the PCE sources from the TCE sources on  
20 the Bermite site?

01:39PM

21 A. Well, I think there could be more work done  
22 evaluating sources from various parties. And I think that  
23 would be helpful to have more data and additional data to  
24 characterize that. I'm not sure it would necessarily give you  
25 the answer you're looking for, but, you know, there could be

01:39PM

1 additional investigation work done.

2 Q. And until that work is done, you're not able to  
3 determine what is the source of the VOCs in Saugus 2, are you?

4 A. Uh, I'm not able to identify any alternate source.

01:40PM 5 I said there was a -- a possibility that there might be another  
6 source. That doesn't mean it's more likely than not. It means  
7 it's possible. So it could be a 1 percent chance, it could be  
8 a 0.5 percent chance.

9 But again, if -- if I were given records from a  
01:40PM 10 nearby alternate source, you tell me what the alternate source  
11 is and I can tell you what the likelihood is that that's a  
12 viable source for the contamination we see in that well. With  
13 no source to work with, I mean, it's just arm waving.

14 So again, I -- I stand by my conclusion that it's  
01:40PM 15 more likely than not, particularly based on the perchlorate and  
16 even the TCE that the source of that contamination in that well  
17 is the Whittaker-Bermite site.

18 MR. BLUM: Your Honor, page 229, lines 5 through 15.

19 THE COURT: You may proceed.

01:41PM 20 (Videotaped deposition was played:)

21 Q. *"So if it's the Bermite site what's the*  
22 *source?"*

23 A. *"I'm not saying it isn't the Bermite site.*  
24 *That was your conclusion. I'm saying that more work*  
01:41PM 25 *needs to be done to sort that out in terms of*

1        *separating out the PCE sources from the TCE sources*  
2        *on the Bermite site in the same way that we separated*  
3        *the VOC sources from the perchlorate sources to see*  
4        *if there are sources with significant TCE*  
01:41PM 5        *concentrations that are in the capture zone of the*  
6        *Saugus 2."*

7        Q.        (BY MR. BLUM:) Okay. Now, I want to move on to  
8        SIC.

9        MR. BLUM: And if we can put up the SIC -- the SIC  
01:41PM 10       map.

11       THE COURT: Which exhibit?

12       MR. BLUM: It's Exhibit 1450 for demonstrative  
13       purposes only, Your Honor.

14       THE COURT: Without objection, you may --

01:42PM 15       MR. GEE: For demonstrative only, Your Honor?

16       THE COURT: I'm sorry.

17       MR. GEE: Is this for demonstrative only?

18       THE COURT: Any objection? It's up.

19       MR. GEE: No.

01:42PM 20       THE COURT: Thank you.

21       Please proceed.

22       Q.        (BY MR. BLUM:) Can you identify where SIC is on  
23       that map?

24       A.        I believe that's the red strange shaped figure  
01:42PM 25       there. Looks like an arrowhead. It says -- it says "SIC."

1 Q. All right. And do you see that -- am I -- that red  
2 circle I made or bad red circle I made? Is that where Saugus 1  
3 is?

4 A. Well, that's labeled Saugus 1, yes.

01:42PM 5 Q. And right below it is -- oops -- Saugus 2; correct?

6 A. Yes.

7 Q. All right. Now, would you agree with me that  
8 regardless of the amount, even if you believe the amount is  
9 negligible, that SIC is the source of contamination for

01:43PM 10 Saugus 1 or Saugus 2?

11 A. I would say it's not.

12 Q. Okay. If we can go to your deposition, page 225,  
13 lines 1 through 8.

14 THE COURT: You may proceed.

01:43PM 15 (Videotaped deposition was played:)

16 Q. *"Are you concluding that SIC has contributed*  
17 *zero VOCs to Saugus 1 or Saugus 2 or any other*  
18 *offsite well?*

19 A. *"I don't know if I would say zero. I would*  
01:44PM 20 *say negligible, if that's a fair statement.*

21 Q. *"Sir, can you define what you mean by*  
22 *'negligible'?*

23 A. *"Not a meaningful quantity or concentration."*

24 Q. (BY MR. BLUM:) What is a non-meaningful  
01:44PM 25 concentration?



1           A.     There's a couple of different ways of looking at  
2     that. It can be a concentration that is below a reporting  
3     limit, could be a concentration that's even below a detection  
4     limit. So, you know, there can be low concentrations that are  
01:44PM 5     not measurable because they're below those limits.

6                     And so the laboratory can reach certain thresholds  
7     of low concentrations, but that doesn't mean that if they -- if  
8     they find something that's not above the reporting limit, it  
9     doesn't mean it's not there.

01:45PM 10           Q.     Okay. So if, indeed, SIC is contributing even an  
11     infinitesimal amount to Saugus 1 and Saugus 2, doesn't that  
12     mean there has to be a pathway of migration for that to move  
13     from the SIC site to the wells?

14           A.     Well, and I'm -- what I said in my report is that  
01:45PM 15     there isn't a plausible pathway from the SIC site to the wells.

16           Q.     Okay. But that wasn't my question, Doctor.

17                     My question to you, Doctor, is if, as you testified  
18     in your deposition under oath, SIC has contributed a negligible  
19     amount, doesn't that mean that there had to be a pathway for  
01:45PM 20     that negligible amount to move from the SIC site to the  
21     Saugus 1 or Saugus 2 wells?

22           A.     Well, I don't know what that pathway would be.

23           Q.     The mere fact you don't know what it is doesn't mean  
24     it doesn't exist, does it?

01:46PM 25           A.     Well, I mean, the data supports that there is no

1 pathway.

2 Q. Well, does that mean you were not telling the truth  
3 at your deposition when you said that you weren't saying it was  
4 zero, that it was negligible?

01:46PM 5 A. Negligible could be very, very close to zero.

6 Q. Okay. Well, even if it's .000 -- and I'll keep  
7 going with zeros and finally get to a 1, there has to be some  
8 way for that really, really, really small number to have got  
9 there. Would you agree?

01:46PM 10 MR. GEE: Objection. Argumentative.

11 THE COURT: Overruled.

12 THE WITNESS: Um, I would say that there could be  
13 pathways that could introduce very small quantities, um, in  
14 those wells that are not established through the groundwater  
01:46PM 15 system. So there could be surface runoff, there could be  
16 atmospheric deposition, there could be various sources that  
17 could contribute a very, very small quantity like that that are  
18 not pathways that go through the groundwater system.

19 Q. (BY MR. BLUM:) Now, isn't it correct, Dr. Trudell,  
01:47PM 20 that you stated in your report that there was a possibility  
21 that the pathway was as a result of the operation of the Saugus  
22 wells pulling contamination from the alluvium down to the well?

23 A. The contamination from the alluvium goes into the  
24 Saugus 1 unit. And then the Saugus 2 unit, which is a clay  
01:47PM 25 unit, prevents the migration of contamination into deeper

1 Saugus units that could be impacting the wells.

2 Q. Does that mean you didn't say what I said in your --  
3 in your report? I'm asking what you said in your report.  
4 Didn't you say in your report that there was -- that a  
01:48PM 5 possibility exists that drawdown from Saugus 1 pumping could  
6 cause the western extent of the TCE plume to move downward from  
7 the alluvium into the shallow Saugus formation to the west of  
8 Saugus 1, at which point it would be drawn back to the east and  
9 captured by the Saugus 1 well?

01:48PM 10 A. Can you give me the page reference for that?

11 Q. Page 20, last paragraph of your report.

12 A. Okay. So that's a conceptual model that was put  
13 forward by --

14 Q. Did you say that? I'm asking if you said it.

01:48PM 15 A. I wrote those words.

16 Q. Okay. Now, what does "drawdown" mean?

17 A. It's lowering of the groundwater level in a well  
18 and -- and the aquifer adjacent to a well.

19 Q. Okay. Now, when something is drawn down from  
01:49PM 20 Saugus 1 pumping, does that mean that the pressure that is  
21 created by Saugus continually pumping water can force  
22 contamination that's above the well down towards the well?

23 A. That's a possibility, yes.

24 Q. Okay. And that's a possibility that existed that --  
01:49PM 25 for why there's contamination in the Saugus 1 well; correct?

1 A. Um, it's a possibility, I would say.

2 Q. Okay. And isn't it true that there is -- what's the  
3 alluvium, by the way?

01:49PM

4 A. The alluvium is the loose sediment that is deposited  
5 by erosion, both from the mountains and also from the rivers.

6 Q. Okay. And if we can put up AL-6 on the map.

7 Now, are you familiar with -- this would be  
8 demonstrative 1452.

01:50PM

9 Now, the square here, I'm going to circle around  
10 AL-6. That's an -- that's an alluvium well; correct?

11 A. Yes.

12 Q. And would you agree with me that contamination from  
13 SIC has reached AL-6?

14 A. No, I would not.

01:50PM

15 Q. Okay. And what's that based on?

16 A. We don't see any one of -- 1,2-DCA or vinyl chloride  
17 in that well.

18 Q. Okay.

01:51PM

19 A. Those are the indicator chemicals of contamination  
20 from the SIC site.

21 Q. Well, page 135 of your deposition, lines 5 through  
22 8.

23 MR. GEE: Can the deposition be read through  
24 line 16?

01:51PM

25 MR. BLUM: I'm going to read 5 through 8.

1 THE COURT: But it's going to extend through -- I'm  
2 actually going to have it extend through 20, line 20.

3 MR. BLUM: Okay.

4 "QUESTION: Now, the plume coming from SIC,  
5 has it reached the alluvium around alluvium Well 6?

6 "ANSWER: It looks like it may have. I'd have  
7 to double-check that.

8 "QUESTION: If, indeed, there is  
9 communication -- there is communication based on the  
10 pumping at Saugus 1 between Saugus 1 and AL-6,  
11 wouldn't that draw down contamination that has  
12 reached AL-6 from SIC into Saugus 1?

13 "ANSWER: Again, I'd have to check and see  
14 what the concentrations were at AL-6. I haven't  
15 looked at it, that data for a while.

16 "QUESTION: Have you looked at that -- right  
17 now, as of today, have you looked at that scenario?

18 "ANSWER: I have not looked at that scenario  
19 because I didn't agree that."

20 THE COURT: "I don't agree to that."

21 MR. BLUM: "I don't agree to that."

22 Q. (BY MR. BLUM:) So is it after your deposition and  
23 after your report that you looked at the data and came to your  
24 conclusions?

25 THE COURT: Conclusions about what?

1 Q. (BY MR. BLUM:) About whether -- whether you believe  
2 that contamination from AL-6 could have been drawn down to the  
3 Saugus 1 wells?

01:53PM

4 A. Well, as I said in my deposition, I hadn't looked at  
5 it at that time.

6 Q. Have you looked at it since?

7 A. Yes.

01:53PM

8 Q. And that was -- so you're relying on data that was  
9 not in your report and is -- was not subject to deposition to  
10 change your opinion; correct?

11 A. Well, the -- the data was available, I just hadn't  
12 looked at it.

13 Q. Right.

01:53PM

14 Okay. If you can go to your report under  
15 documents -- you outlined the documents you reviewed, show me  
16 where that data was.

17 It starts on page 20 of 24 of your report under  
18 References.

19 A. Yes. I'm just looking through the list here.

01:54PM

20 That would be the source group, 2 -- 2014.

21 Q. The feasibility study? So you had the data  
22 available, and you didn't look at it?

23 A. Um, I hadn't looked at it in that level of detail.

01:54PM

24 Let's remember, there's over 200 wells and probably  
25 300,000 records for those wells. You were asking me what I can

1 tell you about the concentrations in one well with one --  
2 regarding one chemical. And, you know, so I wasn't able to  
3 recollect.

01:54PM 4 Q. Sir, let's see if we can agree on this. AL-6 is  
5 contaminated with VOCs. Do you agree with that?

6 A. I believe it is.

7 Q. Do you agree that it's a possibility that drawdown  
8 from the operation of Saugus 1 can pull contamination from the  
9 alluvium into Saugus 1?

01:55PM 10 A. I disagree with that.

11 Q. Even though that's what you said in your report?

12 A. I -- what the report says, that, in order for that  
13 to happen, a plume would have to migrate to the west of  
14 Saugus 1, reach a point where it interconnects between the  
01:55PM 15 alluvium and Saugus -- S-1 unit, and then be pulled back into  
16 the well. So that was -- that was a conceptual model from the  
17 CH2M Hill 2015 VOC report.

18 Q. Didn't you state that the pumping, quote, "could  
19 cause the western extent of the TCE plume to be moved  
01:55PM 20 downward"?

21 A. If there was one there, yes. Western extent.

22 Q. Right. So -- and it could move downward into the  
23 alluvium into the shallow Saugus formation to the west of  
24 Saugus 1; correct?

01:55PM 25 A. That -- that's one conceptual model, yes.

1 Q. And that -- at which point it would be drawn back to  
2 the east and captured by Saugus 1 well?

3 A. Potentially.

01:56PM

4 Q. Okay. All right. Let's move on to the last issue  
5 and that is the DW or mall wells. And if we can see  
6 Exhibit 1453 for demonstrative purposes only.

7 MR. BLUM: Okay. Try 182, then.

01:57PM

8 Q. (BY MR. BLUM:) Okay. All right. Sir, this is from  
9 the report of Ms. Stanin. It's Figure 25, and it's  
10 Exhibit 182.1.

11 A. Okay.

12 Q. Now, I want to circle the green area, the green area  
13 right there. Do you see that?

14 A. Yes.

01:57PM

15 Q. Okay. Is that near something called the DW or the  
16 mall well clusters?

17 A. I don't see DW well on this map.

01:57PM

18 Q. I want you to assume for the purposes of the  
19 questions that that's where the DW wells and mall well clusters  
20 are. Okay?

21 What's the source of the contamination at the DW  
22 wells?

23 A. Again, I don't see which -- which is the DW well.  
24 It's not labeled.

01:58PM

25 Q. What's the source of the contamination in the



1 blue -- I'm sorry -- in the green area that is near the top  
2 left-hand corner of the exhibit?

3 A. What's the date on this map?

4 Q. 2019.

01:58PM

5 A. 2019. Okay.

6 So if I had to provide an interpretation of that, I  
7 would say that was probably a stranded plume of -- of VOC  
8 contamination that escaped capture when the Saugus wells were  
9 shut down and then continued to migrate downgradient.

01:58PM

10 Q. So you believe it's Whittaker?

11 A. Yes.

12 Q. All right. Okay. Just a second.

13 All right. In relation to the DW wells, what's the  
14 source of the contamination?

01:59PM

15 A. I just answered that question, I believe.

16 Q. All right. We can go to page -- deposition  
17 page 164, lines 6 through 11, and then 23 through page 165,  
18 line 13.

19 THE COURT: Any objection?

02:00PM

20 MR. GEE: No. No, Your Honor.

21 THE COURT: You may proceed.

22 (Videotaped deposition was played:)

23 Q. *"Doesn't that information indicate or support*  
24 *the conclusion that the source of the contamination*  
25 *is something other than the Bermite-Whittaker site?*

02:00PM

1 A. *"In that area, I think that's probably a fair*  
2 *conclusion.*

3 Q. *"All right. So --*

4 A. *"Okay. I have 285 open.*

02:00PM 5 Q. *"All right. You see where it says on the*  
6 *left-hand side, the first page, 'DW1B'?*

7 A. *"Yes.*

8 Q. *"And if you go over to the area where there's*  
9 *PCE and you see numbers -- I'm sorry -- TCE, 16 parts*  
02:01PM 10 *per billion, 10 parts per billion. Further down, it*  
11 *goes to 9.5 and 10.13 and 10. Do you see those?*

12 A. *"Yes, I do.*

13 Q. *"Would you agree that, given the concentrations*  
14 *that we see in V-201 and 205, that the source of PCE*  
02:01PM 15 *could not be the same source for V-201 and 205, just*  
16 *too high?*

17 A. *"Um, I think they are more likely from an*  
18 *alternate source other than the Whittaker site."*

19 Q. (BY MR. BLUM:) *Was that the truth?*

02:01PM 20 A. *Um, again, for -- for that particular location, I*  
21 *think we have to recognize that there can be multiple flow*  
22 *paths bringing concentrations in some places higher in the*  
23 *downgradient direction than they are in the upgradient*  
24 *direction. I believe that the -- again, I don't see where*  
02:02PM 25 *there's evidence of perchlorate, um -- or where there is not*

1 evidence of perchlorate which would indicate a Whittaker  
2 source.

3 Q. So the VOCs and the DW wells were from a source  
4 other than Whittaker; correct?

02:02PM 5 A. I don't know that. I would say it's a possibility.  
6 But again, I -- I would say it's more likely than not  
7 Whittaker's the source of those VOCs.

8 Q. Did you review anything between the date that you  
9 rendered this opinion in your deposition, which was  
02:02PM 10 September 21st, 2020, and today that you hadn't seen at the  
11 time you gave your testimony under oath?

12 A. Um, I've reviewed material but not with -- not  
13 related to this particular topic.

14 I would say -- a better way of putting that is that  
02:02PM 15 my conceptual model has evolved over time. Um, and so, you  
16 know, the more I think about some of these questions, the more  
17 I formulate different conceptual models and somewhat different  
18 opinions.

19 Q. All right. Doctor -- and this is the final few  
02:03PM 20 questions -- when you're testifying here, are you testifying as  
21 a scientist or an advocate?

22 A. I'm a scientist.

23 Q. And is it just a coincidence that each time you  
24 changed your opinion in this case, it's been to the advantage  
02:03PM 25 of the -- of the plaintiff?

1           A.     Uh, I believe -- I don't think that's a fair  
2     characterization. I think, you know, where I said there's a  
3     possibility, I basically explained what I meant by that. And  
4     so I don't think that -- or when I'm talking about degree of  
02:03PM 5     scientific certainty, I tried to explain what I meant by that.  
6     And when I say more likely than not, you know, I think that's,  
7     again, a fair explanation and represents, you know, an  
8     evolution of my thinking and an evolution of the conceptual  
9     model that I'm using.

02:04PM 10           MR. BLUM: Thank you, Your Honor.

11           THE COURT: Mr. Gee?

12                           **REDIRECT EXAMINATION**

13     BY MR. GEE:

14           Q.     Dr. Trudell, just a couple of questions.

02:04PM 15           A.     Okay.

16           Q.     Are the equations that you used in your report  
17     standard equations used by professionals in your field?

18           A.     Uh, yes. All of them are. Um, you pick up any  
19     textbook on hydrogeology or groundwater, that kind of thing,  
02:04PM 20     those equations are almost certainly in there.

21           Q.     And are the methodologies that you employed standard  
22     methodologies that are accepted in your field?

23           A.     Absolutely.

24           MR. GEE: That's all I have, Your Honor.

02:04PM 25           THE COURT: Anything further, Mr. Blum?

1 MR. BLUM: No, sir.

2 THE COURT: You're excused. Please watch your step  
3 going down.

4 THE WITNESS: Thank you.

02:04PM 5 THE COURT: And you have Dr. Najm?

6 MR. RICHARD: We do. Yes, Your Honor. Ready,  
7 willing, and able.

8 THE COURT: All right. Let's go ahead and at least  
9 start him for a little bit. Okay?

02:05PM 10 MR. RICHARD: Very good. I think we're retrieving  
11 him now.

12 THE COURT: And actually, ladies and gentlemen,  
13 while we retrieve him, we're going to take five minutes. So  
14 it's 2:05, just a five-minute break, a comfort break. And I'll  
02:05PM 15 see you back here in five minutes.

16 THE COURTROOM DEPUTY: All rise for the jury,  
17 please.

18 (Out of the presence of the jury:)

19 THE COURT: Please be seated outside the presence of  
02:05PM 20 the jury.

21 MR. RICHARD: Is it all right if Dr. Najm --

22 THE COURT: Yeah. It's fine.

23 I want to understand a little bit more about where  
24 the trial is headed. So you expect Dr. Najm will take  
02:06PM 25 approximately how long on direct examination?

1 MR. RICHARD: I would think 90 minutes. I would  
2 think 90 minutes, Your Honor.

3 THE COURT: Thank you.

4 And on cross-examination?

02:06PM 5 MR. GALLAGHER: Maybe a half hour.

6 THE COURT: All right. And then what about -- well,  
7 let me just first ask. Once you're done with Dr. Najm, the  
8 plaintiff intends to rest?

9 MR. RICHARD: Yes, subject to verifying the exhibits  
02:06PM 10 that have been introduced and then that one blip on the  
11 Peloquin video where we may have missed a question. I'll check  
12 that tonight. But yes, Your Honor.

13 THE COURT: And then tell me what we can expect in  
14 the defense case.

02:06PM 15 MR. BLUM: Your Honor, we were told that they were  
16 resting tomorrow, so we had scheduled our witnesses to start on  
17 Monday. We have them lined up to show up.

18 THE COURT: All right. And tell me what you  
19 anticipate once we start your case. Give me -- give me your  
02:07PM 20 lineup and how long you think it's going to be.

21 MR. BLUM: Well, I can tell you the first three  
22 witnesses are -- Dr. Steffey will be our lead witness, then it  
23 will be Mr. Leserman, then it will be Mr. Alvord, and then  
24 there's -- there's availability issues that I have. But it's  
02:07PM 25 going to be a combination of the next three witnesses of

1 Mr. Hokkanen, Tony -- Tony Daus. And we may then read in a few  
2 depos. But we'll have no problem finishing within the week at  
3 all.

02:07PM

4 THE COURT: What is your best estimate as to how  
5 long it's going to take for you to present your case?

6 MR. BLUM: Four days. And that's -- a lot of that's  
7 dependent upon the length of cross.

8 And, Your Honor, I have to tell you it's an educated  
9 guess at this point.

02:08PM

10 THE COURT: All right. Is there any purpose in  
11 starting with Dr. Najm for the next 20 minutes? Or shall we  
12 start him tomorrow, in light of the fact that it's going to be  
13 a total of two hours?

02:08PM

14 MR. RICHARD: Tomorrow is fine. He did get all  
15 dressed up for today, but I don't think he minds starting  
16 tomorrow, Your Honor.

17 THE COURT: All right. So that's -- we'll go ahead  
18 and do that, and we'll have a short day tomorrow. We'll break  
19 early.

02:08PM

20 MR. BLUM: Your Honor, may I ask a logistical  
21 question for the Court?

22 THE COURT: Yes.

23 MR. BLUM: I know the Court does not want me to make  
24 my motion for directed verdict in front of the jury.

02:08PM

25 THE COURT: Yes.

1 MR. BLUM: So what I would like is basically for  
2 the -- to basically state my intent to do so --

3 THE COURT: Well, it's not really going to be a  
4 problem because there's going to be a break between the two  
02:08PM 5 cases.

6 MR. BLUM: That is fine, Your Honor. I just don't  
7 want to be in a position that I've waived the issue.

8 THE COURT: I don't see it as a problem in this  
9 case, since there's going to be a fairly substantial break  
02:08PM 10 between those two points.

11 MR. RICHARD: And last thing, Your Honor, before we  
12 leave, we have not received -- I think we should be receiving  
13 Dr. Steffey's disclosure so we can meet and confer on the  
14 exhibit.

02:09PM 15 THE COURT: That will need to be done today.

16 MR. RICHARD: Thank you.

17 THE COURT: All right. Let's go ahead and see if  
18 the jury is ready, Mr. Cruz. This way, we can get them going.  
19 Okay?

02:09PM 20 THE COURTROOM DEPUTY: Yes.

21 MR. RICHARD: So we're not calling Dr. Najm?

22 THE COURT: Yeah. We'll just do it tomorrow.

23 MR. RICHARD: That's fine. I just --

24 (In the presence of the jury:)

02:09PM 25 THE COURT: And please be seated.



1 We remain on the record now in the presence of the  
2 jury.

3 And, members of the jury, the reason that I wanted a  
4 break is I wanted to get information about where we are in the  
02:11PM 5 trial so that I can best advise you and also make a  
6 determination about tomorrow and tell you about how much time  
7 likely we're going to need for tomorrow, as I was hoping and it  
8 looks like we can break a bit early tomorrow.

9 So, first of all, instead of starting with Dr. Najm  
02:11PM 10 who is the next witness, we're going to conclude for the day.  
11 I'm going to have you back here tomorrow at 8:30, normal  
12 starting time.

13 Based upon the information that I heard, it seems  
14 extremely likely that we'll be done by noon, probably sooner  
02:11PM 15 than noon. Hopefully you'll be able to get out of here by no  
16 later than 11:30, 12:00 o'clock so that you can get an early  
17 start for your Thanksgiving holiday.

18 So please remember not to speak to anyone about the  
19 case, the people, or the subject matter. Continue to keep an  
02:12PM 20 open mind.

21 And I also inquired, incidentally, to find out if  
22 we're breaking early tomorrow, whether that would impact, i.e.,  
23 extend the estimate that the Court gave you. And I'm  
24 satisfied, based upon the information that I received, that it  
02:12PM 25 will not.

1           So the mere -- the fact that we're going to get a  
2     little extra time for everyone for the Thanksgiving holiday is  
3     not going to cause this to extend out on the back end -- or at  
4     least that's based on the information that I have.

02:12PM

5           So with that, enjoy the rest of the evening. We  
6     will see you tomorrow at 8:30. Thank you.

7           (Out of the presence of the jury:)

8           THE COURT: Please be seated. And we are outside  
9     the presence of the jury.

02:13PM

10          So unless there's anything further for us to address  
11     from either side -- and I'm not aware that either side has any  
12     exhibit issues. I learned that there is no exhibit issues with  
13     respect to Dr. Najm. And if there aren't any issues, we will  
14     conclude.

02:13PM

15          Any issues for the plaintiff, Mr. Richard?

16          MR. RICHARD: No, Your Honor. Thank you.

17          THE COURT: Any issues, Mr. Blum, for the defense?

18          MR. BLUM: No, sir.

19          THE COURT: All right. And incidentally, I likely  
02:13PM 20     will be addressing the jury tomorrow morning with respect to  
21     the excusal of Juror No. 7. And we are going to be doing  
22     cleaning of the courtroom as well as the jury deliberation  
23     room, and that will be done and we'll be ready to go tomorrow  
24     morning. So it will all be finished by then.

02:14PM

25          I do not have any information or further information

1 from Juror No. 7. So I have no further issue or reason to be  
2 concerned or to dispel any concerns. The information that I  
3 provided to you this morning is the same information that I  
4 currently have.

02:14PM

5 Have a good evening, everyone, and rest of the day.  
6 I'll see everyone at 8:30. Thank you.

7 (Proceedings adjourned at 2:14 p.m.)  
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STATE OF CALIFORNIA        )

I, MYRA L. PONCE, FEDERAL OFFICIAL REALTIME COURT  
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